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Citation	Friedman, Benjamin Morton. 2012. Rules versus discretion at the Federal Reserve System: On to the second century. Journal of Macroeconomics 34(3): 608-615.
Published Version	<a href="http://dx.doi.org/10.1016/j.jmacro.2012.05.009">dx.doi.org/10.1016/j.jmacro.2012.05.009</a>
Accessed	February 19, 2015 1:10:22 PM EST
Citable Link	<a href="http://nrs.harvard.edu/urn-3:HUL.InstRepos:10886842">http://nrs.harvard.edu/urn-3:HUL.InstRepos:10886842</a>
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For: Journal of Macroeconomics  
April, 2012

**RULES VERSUS DISCRETION AT THE FEDERAL RESERVE SYSTEM: ON TO THE  
SECOND CENTURY**

Benjamin M. Friedman  
Harvard University

A look back over the soon-to-be-completed first century of the U.S. Federal Reserve System immediately highlights the continuing importance of a fundamental tension: between the desire, often on different grounds in diverse quarters, for rule-based policymaking, and the practicalities that, inevitably or not, lead central bankers to preserve an essential role for discretion in actual policy decisions. Such key episodes during this hundred years as the initial debate over the new central bank's structure, the exploration of how it might conduct open market operations and the creation of the Federal Open Market Committee, the confused and ultimately failed response to what became the Great Depression, the abandonment of wartime interest-pegging commitments under the Treasury-Federal Reserve Accord, the delayed but ultimately successful response to what had become the Great Inflation, the adoption and subsequent abandonment of monetary aggregate targets, the extraordinary actions taken during and in the wake of the Great Financial Crisis, and the still-in-process evolution of inflation targeting, have all revolved, in one way or another, around the rules-versus-discretion issue.<sup>1</sup> From a broader conceptual perspective, the same issue arises in many contexts other than

monetary policy as well. Within the narrower context, it was a hallmark of central banking debates well before the Federal Reserve existed.<sup>2</sup> It remains unresolved today.

### **The Early Post-War Decades: The Classical Rules-Versus-Discretion Problem at the Federal Reserve**

Within the context of the Federal Reserve System, the rules-versus-discretion debate gained renewed vigor, and took on much of its modern conceptual structure, once the 1951 Accord freed U.S. monetary policymakers to make independent decisions about the level of short-term interest rates. The argument against what many economists of that time called “fine tuning” had two main components. First, in the presence of uncertainty over not just the disturbances to which the economy is subject but also the magnitude and timing of the economic impact of whatever measures policymakers might initiate in response – in Milton Friedman’s much-quoted phrase, “long and variable lags” – actions intended to stabilize the economy might end up *destabilizing* it. In a classic early paper along these lines, Friedman famously showed that (under specific conditions) a policy aimed at fully offsetting economic shocks would instead amplify them if the correlation between the intended effect of such actions and their actual effect were less than one-half.<sup>3</sup> Absent confidence that the achievable correlation would be this great, therefore, a “do nothing” policy would be superior, on average over time, to a policy aiming to offset shocks fully.

Second, given the setting in which this debate arose, in the early decades following World War II, the implicit assumption was that what policymakers were seeking to stabilize was real economic activity: output, or employment (perhaps unemployment), or both. Just five years before the Accord, Congress had passed the Employment Act of 1946, which officially recognized federal government responsibility for such aspects of the U.S. macroeconomy. (As

originally proposed, the bill's title was the *Full* Employment Act, but in the face of opposition in Congress the adjective was dropped; many economists today erroneously refer to the law as the "Full Employment Act.") The concern, therefore, was that this kind of "fine tuning" would distract attention from the need to maintain stability in prices or in the rate of inflation. To my knowledge, no one used the derogatory phrase "fine tuning" to refer to attempts to resist either actual or incipient price inflation. (Similarly, later on, once many central banks began using monetary aggregate targets as formal guidelines for monetary policy, no one argued that attempting to keep the money stock, however measured, as close as possible to the targeted trajectory constituted "fine tuning.")

Especially in the wake of the Great Inflation of the 1970s and early 1980s, this second criticism proved telling. Inflation rose to rates widely regarded as both economically harmful and politically unacceptable, not just in the United States but nearly everywhere in the industrialized world. Regardless of one's view of the *origins* of the increase in inflation – whether the root cause was a flawed model of the macroeconomy (such as the stable Phillips curve), or perverse economic institutions (indexed wage contracts, for example), or a series of extraordinary supply shocks (oil, anchovies, etc.), or, more likely, some combination – it is clear in retrospect that once inflation reached levels that both policymakers and the public regarded as problematic, policymakers hesitated to fix the problem because they did not attach sufficient priority to it. The practical impact was, and three decades later remains, a visibly greater priority attached to price stability. The charter of the European Central Bank, founded more than a decade after most of Europe's national central banks had succeeded in reducing their economies' respective inflation rates, established price stability as the paramount objective of the new institution's monetary policy. The Federal Reserve has continued to operate, as it had since

1975, under a dual mandate specifying price stability and maximum sustainable employment as its twin objectives. But compared to the years before the Great Inflation, the enhanced emphasis on maintaining low and stable inflation has been readily apparent.

It was the other criticism of “fine tuning,” however, that has remained problematic. The rules-versus-discretion debate was, and is, about more than what objectives the central bank is to pursue. In this more fundamental respect, neither events nor economic thinking ever resolved the fundamental question.

From the perspective of the theory of economic policymaking, Milton Friedman’s famous result about the dangers of a policy intended to offset fully any given shock to the economy was just that: an analysis of what happens if policymakers seek to offset shocks *fully*. In another classic paper a decade and a half later, William Brainard implicitly showed that while a correlation of less than one-half between the actual and intended effect of policy action rendered a “do nothing” policy superior on average to attempting to offset shocks in full, the “do nothing” policy was not necessarily superior to a more conservative policy that aimed to offset shocks only partially.<sup>4</sup> Brainard showed that as long as there was any positive correlation at all between the actual and intended effect of the policy action, under the conditions posited by Friedman there necessarily existed some responsive policy superior to the “do nothing” policy. (Like Friedman’s, Brainard’s result rested on specific assumptions that may not be satisfied, and so it is not fully general; but relaxing those assumptions does not necessarily deliver superiority of a “do nothing” policy either.)

Moreover, a logically prior problem – and, from the perspective of monetary economics, a deeper one – was how to define the “do nothing” policy in the first place. In retrospect, it was this issue that primarily shaped the rules-versus-discretion debate (and continues to do so).

Given the setting of the early postwar years, especially in the United States, one might have supposed that to “do nothing” meant holding the short-term nominal interest rate unchanged; that, after all, is what the Federal Reserve System was required to do before the Accord. But economists and others who made the anti-“fine tuning” argument certainly did not intend a return to interest rate pegging. What, then, might correspond to the “do nothing” counterfactual in Milton Friedman’s analysis (or in Brainard’s, for that matter)?

What Friedman himself had in mind – along with other critics of Federal reserve policy, most prominently Karl Brunner and Allan Meltzer<sup>5</sup> – was maintaining an unchanging rate of growth of one or another deposit-monetary aggregate (Friedman) or the monetary base, meaning the central bank’s total liabilities (Brunner and Meltzer). As a result, the advent of monetary targeting, in response to the beginnings of the Great Inflation, was widely perceived at the time as moving monetary policymaking closer to the “rules” side of the rules-versus-discretion debate. Beginning in 1975 the U.S. Congress called for the Federal Reserve to establish specific numerical targets for various measures of money growth, publicly announce these targets in advance, and report back to Congress on its success or failure in achieving them. In 1979, as inflation was reaching post-war record levels, the Federal Reserve publicly declared that it had intensified its dedication to controlling money growth and was implementing new day-to-day operating procedures designed to enhance its ability to do so. For practical purposes, the next few years were the high-water mark not only of money growth targets but also of the “rules” position in U.S. monetary policymaking.

Soon thereafter, however, the empirical relationship between monetary aggregates, however defined, and either prices or nominal income broke down (in the United States and in most other industrialized economies as well). In addition, the enhanced short-term volatility of

interest rates and other financial market prices highlighted the basic theoretical principle, already well understood in the monetary policy context, that the central bank (like any monopolist) can fix either the price or the quantity of what it produces – in this case monetary liabilities – but not both, and that under plausible conditions holding one rigid increases the volatility of the other.

At the level of monetary policy practice, the consequence was a step-by-step movement away from money growth targeting – and hence from any claim to rule-based monetary policymaking more generally. In 1987 the Federal Reserve formally gave up setting a target for the narrow money stock (M1), but continued to set targets for broader measures of money (M2 and M3). In 1993 it publicly acknowledged that it had “downgraded” even its broad money growth targets (a change that many observers of U.S. monetary policy had already noticed earlier on), changing the relevant language to simply one of “ranges.” Although the Federal Open Market Committee (the “FOMC”) continued to specify numerical growth ranges for both M2 and M3, in its public statements it made clear that these ranges did not serve as targets; they were merely expectations of what would happen under specific assumed conditions. In 1998 the Committee further clarified that these growth ranges were not even “guides to policy.” In 2001 it stopped setting such ranges altogether.

### **Reaction to the Great Inflation: Emphasis on Expectations and Commitment**

For purposes of the rules-versus-discretion debate, the abandonment of monetary targets meant that it was again not obvious what the “do nothing” policy in the sense of Milton Friedman’s classic argument might be. At the same time, however, new analytical thinking was advancing a further set of arguments highlighting the theoretical value of policymaking that followed some kind of rule, or at least that rendered the relevant outcomes more reliably predictable for households and firms within the economy.

This newer line of thinking likewise had several aspects. At the most general level, the argument was simply that predictability enhances economic efficiency. Both households and firms regularly take decisions with consequences that depend on the future state of the economy: whether jobs will be easy or hard to find, whether the demand for any given product will be strong or weak, whether prices will rise a little or a lot, whether the return on any given investment asset will be large or small. Economic agents presumably make better decisions when there is less uncertainty about such matters. Further, on the assumption that they are risk averse, the decisions they take will be systematically different (and, from a welfare-maximizing view, superior) if uncertainty is less.

Most economists find this generic argument persuasive, as have central bankers, and so it has added force to the “rules” side of the rules-versus-discretion debate, at least at an abstract level. The implication for monetary policymaking is not straight forward, however. The most immediate reason is that what most households and firms presumably care about for these purposes – again, job market strength, or product demand, or inflation, or asset returns – at best represents the *outcome* of monetary policy actions (together with other forces in the economy), not central bank actions per se. What reduces the relevant uncertainty in many of these specific contexts is confidence that the central bank will effectively respond to unexpected disturbances to the economy (if it can do so), not necessarily a belief that it will take action only according to some stated rule, and still less that it will follow a “do nothing” policy, however defined. And, in any case, the generic argument for less uncertainty once again does little to help identify what the “do nothing” monetary policy would be.

At the practical level, therefore, the force of this line of argument has primarily been on central bank communications, not policymaking per se. Since 1993, when it formally de-



emphasized even its broad money growth targets, the Federal Reserve has progressively moved to a more open communications posture with respect to its monetary policymaking: announcing the target level of the federal funds rate immediately after each FOMC meeting, accelerating the release of FOMC minutes, holding regular press conferences led by the chairman, disclosing (in summary form) individual FOMC members' forecasts for output growth and inflation, and most recently disclosing (again in summary form) individual FOMC members' expectations for the future path of the federal funds rate.

But the new macroeconomic thinking also suggested ways in which some forms of rule-based policy might be beneficial in a more specific way. The key development, following the breakdown of the stable Phillips curve, was the incorporation into macroeconomic thinking of a significantly enhanced role for forward-looking behavior, and therefore expectations, including in particular expectations about inflation. A key implication of the New Keynesian Phillips Curve – or, for that matter, any construct in which price- or wage-setting depends on what people today expect will be the price or wage that prevails in the future – is that the short-run trade-off that the central bank faces between loss of output and reduction in inflation ought to be mitigated by its commitment to low inflation itself. (Although there is ample evidence documenting forward-looking behavior in both the goods market and the labor market, just as the New Keynesian Phillips Curve suggests, evidence for industrialized economies indicating that the short-run trade-off between output and price stability depends in any direct way on the central bank's commitment to price stability remains lacking; but the state of the empirical evidence is not the question under discussion here.) Further, once the public understands that a central bank will *not* maintain price stability, price stability is subject to unravelling on its own, even without the central bank's actually implementing an inflationary monetary policy.<sup>6</sup>

To be sure, part of the import of this line of thinking was once again about what the objectives of monetary policy should be, and what relative weight to attach to them when those objectives are broader than just price stability – as the Federal Reserve’s are. But the pivotal role of expectations also heightened in parallel the importance of the policymaker’s *commitment*, if not to an explicit policymaking rule then at least to some kind of regime that provided confidence in future price stability. Hence this line of argument also at least appeared to weigh in favor of the “rules” side of the rule-versus-discretion debate.

The practical outcome, to a limited extent at the Federal Reserve but in a more straightforward way at many other central banks around the world, was the movement toward one or another form of inflation targeting. The Reserve Bank of New Zealand was the first central bank to adopt formal inflation targeting, in 1989, and at last count the IMF classified 44 central banks as inflation targeters. In the United States, some members of the FOMC have publicly expressed interest in the idea, but the Committee has not (yet?) adopted it. In 2012 the FOMC publicly quantified the inflation rate “most consistent over the longer run with the Federal Reserve’s statutory mandate” as 2 percent per annum, measured by the price index for personal consumer expenditures. But the Committee also acknowledged its Congressionally mandated twin objectives of achieving both price stability and maximum sustainable employment, and while it emphasized that the employment part of this mandate did not plausibly lend itself to establishing a numerical goal that would remain fixed over time, it identified members’ current assessment of the “long-run normal rate of unemployment” as lying between 5.2 and 6 percent.

The more fundamental issue, however, is that inflation is not plausibly an exogenous variable over time horizons that matter for a central bank’s monetary policy operations.<sup>7</sup> Merely

specifying a numerical inflation target may or may not address the concerns at issue in the by-now rich theoretical analysis of the implications of the public's confidence in policymakers' commitment to keeping inflation on track, but even if achieving that inflation rate were the central bank's sole objective (which, to repeat, for the Federal Reserve it is not), doing so still would not constitute a monetary policy "rule" in the sense of the rules-versus-discretion debate. The question at issue for that purpose is not just what macroeconomic outcomes policymakers seek but what *actions* the central bank will take, under any set of circumstances, in order to achieve them.

One way for the central bank to make its monetary policy actions more predictable, of course, is to announce them well in advance of the fact. In recent years some central banks, most notably Norway's Norges Bank and Sweden's Riksbank, have made a regular practice of doing just that. During the past decade the Federal Reserve has taken a number of limited steps in that direction, with progressively greater explicitness. Beginning in mid 2003, during a period of continuing economic weakness and concern over potential deflation, the FOMC regularly included in its post-meeting public announcements a statement that the Committee "believes that policy accommodation can be maintained for a considerable period." As economic conditions then strengthened, the FOMC in 2004 and 2005 indicated its intention to tighten monetary policy, but only after some further time, by regularly announcing that "policy accommodation can be removed at a pace that is likely to be measured." In late 2008, when the Great Financial Crisis was at its worst and with the federal funds rate effectively at zero, the FOMC began to announce that "the Committee anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time." Beginning in mid 2011, the FOMC made this statement more explicit by announcing that "The Committee currently

anticipates that economic conditions ... are likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013.” And in early 2012 the Committee amended this regular statement to read “at least through late 2014.”

This kind of prior announcement once again does not constitute a “rule” in the sense of the rules-versus-discretion debate, however. Moreover, at least as deployed to date by the Federal Reserve, it is not obvious that it has substantially reduced public uncertainty about future monetary policy decisions. One reason was the framing of the announcement, and also the accompanying summary of individual FOMC members’ assessments that the Committee released in early 2012, in terms of FOMC members’ *expectations*. But if the declaration had instead taken a form of an unconditional commitment, it is not clear that such a commitment would have been credible. (Would policymakers really leave the federal funds rate at zero for three years even if economic activity accelerated, and price pressures began to develop, part way through that interval?)

Further, in an extension of the basic principle that in a stochastic setting holding one economic variable fixed can mean increasing the volatility of another, it is not even clear that if such a commitment were believed it would achieve the objectives at issue in the rules-versus-discretion discussion anyway. (A firm commitment to hold short-term interest rates at zero for a fixed length of time, even if inflation pressures begin to develop along the way, would presumably *increase* the uncertainty associated with inflation, especially toward the end of the stated period and for some time thereafter; that was the fundamental objection to the Federal Reserve’s pre-Accord interest-pegging policy.) Although one of the foremost objectives behind the argument for rule-based policymaking is to inform private economic agents’ expectations, and thereby enable them to make superior economic decisions, it does not follow that mere

“management of expectations” – to use a phrase that has become familiar in the academic literature of monetary policy – is by itself an adequate substitute.

### **Response to Institutional Reality: Proposals for Interest Rate Setting Rules**

In the decades since the demise of monetary aggregate targets, the proposal that has come closest to representing genuine rule-based monetary policymaking is to constrain the central bank’s setting of its designated short-term interest rate to follow some relatively simple quantitative formula. Most prominently, John Taylor has repeatedly advocated that the Federal Reserve systematically vary the federal funds rate according to a fixed relationship to both the recently observed inflation rate and the recently observed difference between actual and estimated full-employment output (in some formulations, the difference between actual unemployment and the economy’s natural rate), with a further dependence on past values of the federal funds rate itself in order to avoid sharp market discontinuities. A long-standing prior literature had established that, in circumstances including either serial correlation in economic disturbances or responses to disturbances that work themselves out over time, the central bank would optimally vary its interest rate instrument in response to observed macroeconomic events, including a positive response to observed inflation and a negative response to observed economic slack. The novelty of Taylor’s original presentation was to argue that despite the complexity such an approach might in principle imply, with a potential multitude of observed economic influences to which to respond, over a specific time period (1987-92) the Federal Reserve’s actual setting of the federal funds rate had approximately followed a very simple response pattern of this form involving only those two macroeconomic variables plus the interest-smoothing element.<sup>8</sup>

Although Taylor originally presented the “Taylor Rule” as a matter of positive description, he subsequently advocated that the Federal Reserve adopt it as a normative guide to its monetary policy.<sup>9</sup> Further, in the wake of the large run-up in U.S. house prices in the half-decade before the Great Financial Crisis, and then the events of the crisis itself, Taylor argued that the root cause of the problem had been the Federal Reserve’s departure from this rule earlier in the decade. Specifically, the very low level of the federal funds rate (less than 1.50 percent from November 2002 through August 2004, and then still less than 3.00 percent through April 2005), which policymakers chose in response to concern over potential deflation, was well below what most versions of the Taylor Rule would have implied given the current levels of inflation and output.<sup>10</sup>

The Taylor Rule has had widespread appeal along lines that correspond to the traditional rules-versus-discretion debate as well as to the more recent macroeconomic thinking that emphasizes the central bank’s commitment to low inflation. Unlike inflation targeting, it applies to monetary policy *actions*: it acknowledges that the central bank’s operating instrument is a short-term interest rate, and it delivers a specific value for that instrument. But the indicated response of the nominal interest rate to movements of observed inflation, specifically with a greater-than-unit coefficient, also implies a commitment over time to low inflation by guaranteeing an ever higher real interest rate were inflation to move progressively higher. Finally, with only two variables (in addition to the interest-smoothing term), the Taylor Rule plausibly meets the challenge that, to achieve the much of the purpose at issue in the rules-versus-discretion debate, a rule needs to be simple enough to be widely understood by a wide range of economic agents who are mostly not trained economists.<sup>11</sup>

While the FOMC has regularly used different versions of the Taylor Rule as a tool in its deliberations, it has not publicly (nor, apparently, internally) moved to adopt it as any kind of formal guide to U.S. monetary policy. The arguments against doing so are, once again, ones that have traditionally been at the center of the rules-versus-discretion debate.

One concern is that such a simple two-variable rule inevitably omits too many relevant and readily observable considerations that policymakers can and should take into account. For example, even before the post-2000 experience of rising house prices and then financial crisis, many economists debated whether central banks should systematically vary short-term interest rates in response to movements in financial asset prices.<sup>12</sup> Since the crisis, others have advanced the same idea with respect to house prices.<sup>13</sup> In either case, the argument is not that asset prices per se should be an objective of monetary policy but that the central bank's systematically responding to the information they contain may improve the aggregate-level performance achieved by its monetary policy. There is also evidence that observations of the financial condition of U.S. banks (based on, for example, the criteria included in the standard CAMELS ratings), when aggregated, contain incremental information that helps predict fluctuations in aggregate-level economic activity.<sup>14</sup> Here too, therefore, there is at least an a priori case that the Federal Reserve's responding to these observations in its setting of short-term interest rates, either systematically or even just occasionally – presumably reducing interest rates when banks' measured soundness erodes – may improve ultimate monetary policy outcomes. While in each of these cases the argument for policymakers to take these additional variables into account in a discretionary decision making process is straightforward, incorporating one, or even more so all, of them into a rule like the Taylor Rule would risk violating the simplicity criterion for a rule to be effective.

The other familiar concern over adopting a form of Taylor Rule is simply that, as with any other rule, doing so would prevent policymakers from responding to extraordinary circumstances that lie outside the ordinary macroeconomic relationships for which sufficiently ample empirical evidence exists to permit formulating a clear rule in the first place. Here the issue is the traditional tension between the advantages of central bank commitment, with its presumed favorable consequences operating via private agents' expectations, and the advantages of flexibility of action in the face of unknown and perhaps unprecedented events. Well before the onset of the Great Financial Crisis, Taylor was himself sensitive to the question.<sup>15</sup> But merely noting the tension does not resolve it. The more policymakers hedge in the direction of acknowledging that any device like the Taylor Rule is merely a presumptive guide to interest rate setting, or perhaps even just an analytical aid, the more they sacrifice the presumed advantages to be gained by commitment. The operative question is where on this spectrum the central bank chooses to position itself. To date the Federal Reserve, like most other central banks among the advanced economies, has maintained its position well toward the discretion side of the spectrum.

### **Fallout from the Great Financial Crisis: Extending the Debate to Lender-of-Last-Resort Policies**

The Great Financial Crisis exacerbated these concerns about the potential adequacy of any rule, but also increased the desire for rule-based monetary policymaking in some quarters. Many of the economic and financial circumstances surrounding the crisis were unprecedented in U.S. experience, at least since the Great Depression of the 1930s. The evolution of a securitized market for home mortgages, the decline in underwriting and credit standards that followed, the exposure of many large banks and other financial institutions to holdings of these securities or to derivative claims based on them, and then the nationwide decline in house prices, represented a



wholly new set of developments. Once the crisis gained momentum, the risk of a 1930s-style collapse of the banking system was real. Other key credit markets, not just those related to housing finance but others like the commercial paper market too, largely ceased to function.

Once the Federal Reserve reduced the federal funds rate to zero, at the end of 2008, the question of whether it was following an interest rate rule became moot for the time being. But central banks have other tools at their disposal, and during the crisis and in its aftermath the Federal Reserve deployed many of them, sometimes in a massive way.

Early in the crisis, the Federal Reserve implemented a series of specially tailored lending programs, some (like the Term Asset Facility) designed to lend reserves to banks and others (like the Commercial Paper Funding Facility) providing credit directly to key securities markets that had become dysfunctional. Later, it undertook a \$1 trillion program of “quantitative easing” that not only expanded bank reserves but also transferred mortgage-backed securities from private ownership to the central bank’s own balance sheet. Still later, it undertook a second round of quantitative easing, this time in the amount of \$600 billion, directed toward purchases of Treasury securities. Later still, it carried out a version of the 1960s-era “Operation Twist,” allowing its portfolio of short-term Treasury securities to shrink while investing in longer-dated Treasuries. As a result, the U.S. monetary base (the Federal Reserve’s total liabilities) expanded from \$830 billion at midyear 2008 to more than \$2.6 trillion by yearend 2011. Along the way, the Federal Reserve participated as an active partner with the U.S. Treasury in carrying out the Troubled Asset Relief Program, and also made thousands of short-term loans (sometimes quite large ones) to individual banks facing temporary funding deficiencies.

No straightforward rule, suitable to be articulated in advance, could have encompassed this range and volume of central bank interventions. The classic Bagehot prescription for lender-

of-last-resort operations, for example – lend freely, at a penalty rate, against good security – turned out to have little practical value when banks held large volumes (compared to their capital) of securities that were not trading and for which the prospects for future cash flows were highly uncertain.<sup>16</sup> To the contrary, in the circumstances of the 2007-9 crisis, whether or not many of the illiquid real-estate-backed assets that U.S. banks held constituted “good” collateral largely depended on what actions the Federal Reserve or other government agencies intended to take.

The debate surrounding the Federal Reserve’s lender-of-last-resort actions and special lending and asset purchase programs during the crisis therefore paralleled key aspects of the much longer-standing rules-versus-discretion debate in the context of monetary policy more narrowly defined. Economists and others who regarded these extraordinary actions as well-taken, including many who thought the Federal Reserve’s interventions had prevented a system-wide banking crisis and that its purchases of commercial paper and then mortgage-backed securities had restored functionality to economically essential but temporarily broken markets, saw their success as a further demonstration that the economic and financial setting in which the central bank has to operate is subject to irregular disturbances that render it wholly unsuited to rule-based policymaking. By contrast, those who opposed these actions – for example, on the ground that rescuing banks and other financial institutions would exacerbate future risk-taking behavior along standard moral-hazard lines, or in fear that the tripling of the monetary base would prove inflationary – likewise recognized that no simple rule would have encompassed them and therefore regarded that limitation as a further reason to favor having such a rule.

And, for further reasons, the debate over the Federal Reserve’s actions during the crisis period has evolved into a more fundamental debate about the structure, in some forms even the

existence, of the central bank itself. Despite the wide array of actions taken by both the Federal Reserve and other agencies of the U.S. Government – including easy monetary policy, fiscal stimulus, lender-of-last-resort actions and other targeted interventions – the business recession triggered by the Great Financial Crisis became by some measures (for example, the peak-to-trough decline in output, although not the peak level of unemployment) the most severe economic downturn since the 1930s. Arguments about how much worse the decline would have been without the central bank’s role therefore co-exist with arguments to the effect that the central bank’s actions were ineffective.

The apparent distributional implications of these measures – rescuing banks, and therefore preserving the jobs and pensions of bankers (some of whom presumably participated in the events that caused the crisis), while millions of other Americans lost their jobs or their houses or both, in most cases with little extra help from the government – further exacerbated opposing popular sentiment. So did the continuing decline in the price of owner-occupied housing, which represents by far the largest single component of wealth for the great majority of American families. So too did the slow pace of the subsequent business recovery; although the recession triggered by the crisis ended in the spring of 2009, by yearend 2011 output stood only 6.2 percent above the trough level and gains in employment were even more disappointing.

Popular calls for fundamental change in monetary arrangements during times of protracted and widespread economic distress have been a staple of American politics almost since the founding of the republic.<sup>17</sup> Most famously, in the late 19<sup>th</sup> century, following a period of sustained stagnation in incomes and living standards that Americans of that era called “the great depression,” the Populist Party (joined by the Democrats) made “free silver” – the proposal to abandon the gold standard in favor of bimetallism – the dominant political issue of the day,

and the central policy question at stake in the 1896 election.<sup>18</sup> In 2010 (the latest year for which data are available as of the time of writing), the median U.S. family income stood not only below the immediate pre-crisis level but below that of any year since 1997. It is not surprising, therefore, that in the wake of the Great Financial Crisis of 2007-9, and after nearly a decade and a half of economic stagnation for the majority of citizens, popular political discussion has included a variety of calls for reform, or in some cases the outright abolition, of the Federal Reserve System.

It is even not surprising – although in light of the historical experience it is somewhat ironic – that one element of this post-crisis opposition to the Federal Reserve has been a renewed call, by some, for a return to the gold standard. In the 1880s and 1890s the populist position fueled by widespread economic distress was opposition to the gold standard; today the reaction is the reverse. What is consistent in the two episodes is the desire, prodded by the frustration due to economic stagnation, to turn to whichever set of monetary arrangements the country does not currently have. But the desire in some quarters today for a return to the gold standard is also a form of call for a rule: in the eyes of most non-economists, and many economists too, the gold standard represents the ultimate monetary rule (as, indeed, it was seen during the populist debates of the 19th century as well).

### **On to the Next Century**

At the close of its first century, therefore, the Federal Reserve System faces a higher level of political challenge than it has for some decades – but one that is understandable in light of both the economic circumstances of the time and the prior U.S. experience. On the assumption that the economic distress now confronting so many Americans will give way in time to at least some form of renewed prosperity, as prior periods of stagnation in this country always have, the

heated intensity of the current political opposition to the Federal Reserve will ebb and so too will the calls for fundamental reform in the nation's monetary arrangements. But the debate over whether the central bank should follow some kind of rule in its monetary policymaking, and if so just what kind of rule, is likely to continue.

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## Notes

<sup>1</sup> For a thorough historical account through 1986, see Meltzer (2003, 2009).

<sup>2</sup> See Goodhart (1988) for a comprehensive historical overview.

<sup>3</sup> Friedman (1953).

<sup>4</sup> Brainard (1967).

<sup>5</sup> See Brunner and Meltzer (1964, and many further papers in subsequent years).

<sup>6</sup> The key ideas were developed in Kydland and Prescott (1977), Barro and Gordon (1983) and Rogoff (1985).

<sup>7</sup> The theoretical argument in favor of inflation targeting also often emphasizes the presumed advantages in terms of enhanced transparency and accountability of monetary policy. Elsewhere – for example, Friedman (2004) – I have argued that as it is actually carried out in practice by the central banks that have adopted it, inflation targeting is more likely to undermine monetary policy transparency and accountability.

<sup>8</sup> See Taylor (1993).

<sup>9</sup> See, for example, Taylor (2008).

<sup>10</sup> The evidence for this kind of link between short-term interest rates and movements in house prices is far from clear; see Kuttner (forthcoming).

<sup>11</sup> See, for example, Tobin (1983).

<sup>12</sup> Two of the seminal papers were Bernanke and Gertler (1999) and Cecchetti et al. (2000). Recently published empirical exercises that provide some support for this kind of use of asset prices include Grossi and Tamborini (2011) and Gambacorta and Signoretti (2011). For a theoretical argument that financial frictions like those that figured importantly in the 2007-9 crisis create the basis for a systematic monetary response to the prices of financial assets, see Curdia and Woodford (2009). See Kuttner (2012) for a recent review of this debate.

<sup>13</sup> See, for example, Lo (2010). For parallel evidence based on Norway, see Akram and Eitrheim (2008).

<sup>14</sup> See Peek et al. (2003a, 2003b). In the U.S. bank supervisory system, an individual bank's CAMELS rating is based on the examiners' assessment of its capital adequacy, *asset* quality, *management*, *earnings*, *liquidity* and *sensitivity* to market risk.

<sup>15</sup> See, for example, Taylor (1998).



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<sup>16</sup> Bagehot (1873).

<sup>17</sup> See, for example, Hofstadter (1955).

<sup>18</sup> See Friedman (2005) for an account emphasizing the link to the stagnant economy.